ISS Utilization Management Concept Development Team

Federal Government Corporation Option

October 31, 2002

Outline

- Definition
- Purpose
- Description
- End-State Functional Table
- Option-Specific Traits
- Management Structure
- Functional Organization
- Transition Strategy
- Utilization Management Interfaces
- Baseline Assumptions of all Options
- Option-Specific Strategies
- Option-Specific Outcomes
- Goals and Goal Outcomes
- Advantages/Disadvantages/Risks
- Summary
- Backup Material

Definition

A Federal Government Corporation combines the flexibility of a business with the public purpose and public duties of a traditional governmental organization. The authority to charter a Federal Government Corporation derives from the Necessary and Proper Clause of the U.S. Constitution (chartered by a Federal Charter or chartered under incorporation laws of the District of Columbia).

- Federal Government Corporations have been used as instruments of national policy because of their efficiencies arising from commercial market forces, their flexibilities with regard to encumbering regulations, and their ability to access financial alternatives.

- About 50 Federal Government Corporations are currently chartered by Congress and an average of one per year has been created since World War II.

Purpose

The purpose of the Government Corporation Option is to create a **Customer-centric organization** whose mission is to meet the three ISS Utilization Management objectives, and specifically, to:

- Optimize processes and outcome potential for the customers
- Facilitate customer involvement in research management
- Advocate for the broad community of users
- Encourage and promote academic, government, and industry utilization of the ISS
- Disseminate knowledge of, and encourage use of, space and Earth-based applications of ISS research

Description

In its end-state, the ISS Government Corporation is envisioned as:

A non-profit, federal government owned and controlled corporation established by Congressional legislation to manage ISS utilization endeavors. The organization is empowered to provide public and private services through it's Charter and the Government Corporation Control Act.

The Government Corporation serves as the "one-stop-shop" for ISS users by representing and advocating for the science, technology and commercial user community and serving as the knowledgeable expert of ISS interfaces for the users. The Government Corporation provides efficient integration services for the users and facilitates access to, and use of, the ISS vehicle as a research platform.

Government Corporation Option
End-State Functional Table

0) Define, Develop and Implement Policy and Strategic Plans	S
1) Management of Research Utilization	
a) Establish Research Plans	L
b) Manage Research Programs	L
c) Manage Integrated Research Utilization	L
2) Preparing and Allocating Budgets	
a) Budget Formulation, Justification	L
b) Budget Execution	L
3) Selecting and Prioritizing Research	
a) Managing selection process	L
b) Selection	L
c) Prioritizing selections	L
4) Establishing Payload/Experiment Requirements and Feasibility	
a) Research Requirements	L
b) Engineering Concept Development & Hardware Assessments	L
5) Developing Cost, Schedule, and Risk Assessments	
a) Perform Cost, Schedule, Risk Management Assessment	L
b) Authority to Proceed	L
6) Developing and Qualifying Flight Research Systems	
a) DDT&E	L
b) Subrack Integration	L
c) Operations	L
7) Maintaining and Sustaining Flight Research Systems	
a) DDT&E	L
b) Operations	L
8. Developing Ground Systems	L
9) Maintaining and Sustaining Ground Systems	
a) Identify changes/upgrades to Research Flight Systems	L
b) Maintain & Sustain Research Ground Systems	L
10. Constructing Ground Facilities	
11. Maintaining Ground Facilities	
12) Certifying Safety of Research Flight and Ground Systems	S
13) Managing Missions and Allocating Services	
a) Advocacy, Manifesting and Resource Allocations	L
b) ISS Research Mission Management	L
14) Integrating User Mission – Analytical	
a) Payload Engineering Integration	L
b) Payload Software Integration and Flight Production	L
15. Integrating User Missions - Physical	L
16) Integrating User Missions - Operational	
a) Payload Training	L
b) Operations Integration	L
17) Conducting Research & Analysis and Disseminating Results	-
18. Educating and Reaching Out to the Public (including industry)	
a) Management and Control	L
b) Disseminate, Communicate & Report results to ISS customers	L
19. Recommending ISS Pre-Planned Product Improvements	L
20. Managing Archival of Research Samples, Data, and Results	L

Inherently/appropriately governmental or PI

Science/Technology/Commercial Leadership

Maintaining and Sustaining Flight Systems

Developing Flight Research Systems

Mission Management and Operations

Analytical and Physical Integration

Independent of Functional Allocation

Option-Specific Traits

- Rationale
- Characteristics
- Legal Structure
- Management Structure and Interfaces
- Timeframe and Schedule
- Budget and Finance
- Personnel and Staffing
- Procurement
- Performance Evaluation

Rationale

- It is appropriate to use a Government Corporation when:
  - There is an absence of a commercially competitive market for the goods or services
  - There is a need to continue services to an unprofitable market
  - It serves public and private purposes
  - There is likely a continuing demand for its goods or services
  - The operation is to be primarily business-like or can benefit from application of business-like operating principles
  - An end objective is to obtain a substantially self-financing status
- Advantages for using a Government Corporation are:
  - Increased flexibility in organizational creation, financial structure, management staffing and operations
  - Ability to perform inherently or appropriately governmental functions
  - A high degree of operations, management, legal, and procurement flexibility
  - Increased relief from binding regulations

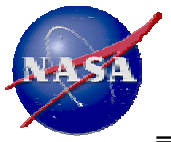
Government Corporation Option
Characteristics

- Congressionally enabled.
- Charter establishes high-level policies, direction and guiding principles.
- Begins as 100% Government-owned and controlled; can transform in the very long-term to mixed ownership and control.
- The Government Corporation will include applicable inherently Governmental and appropriately Governmental functions.

Government Corporation Option

Legal Structure

- Chartered as a not-for-profit entity.
- Can perform inherently governmental and appropriately governmental functions, as desired.
- Can interface with and negotiate directly with the International Partners.
- Exempted from compliance to the FAR and Freedom of Information Act.
- Capable of assuming ownership of government property.
- Exempt from selected civil service rules and regulations.
- Exempt from state taxes and portions of the securities laws.
- Can engage in sponsorships and self promotion.



Government Corporation Option

Management Structure and Interfaces

- Governance is provided by a Board of Directors comprised of key members appointed by the President and confirmed by the Senate. Additional chartered members include NASA executives and other executives from positions within NSF, DOC and other relevant government agencies. Other members are recruited from leadership positions within the academic, industry and financial communities.
- An Executive Management Staff, empowered and charged by the Board of Directors, manages daily operations.
- The Executive Management Staff is relatively small, of high caliber and expertise, and a mix of permanent and transitional Government, Academic, and Industry personnel.
- Can interface with and negotiate directly with the International Partners.
- The Government Corporation serves as the “one-stop-shop” for ISS users by representing and advocating for the science, technology and commercial user community and serving as the knowledgeable expert of ISS interfaces for the users.

Timeframe & Schedule

- Phase 1 (FY2004-05)
  - Formal initiation of the legislative process to establish the Government Corporation for ISS Utilization Management (GCIUM) as a separate entity from NASA
  - ISS Utilization Management portions of Enterprises transfer to a separate Office within NASA (ISS Utilization Management Consolidation Office [IUMCO]) to become the precursor to the GCIUM.
    - IUMCO creates the GCIUM Charter and Board of Directors Governance and works Charter approval through Congress
    - IUMCO develops the strategy for, and manages the transition of functions to the GCIUM
  - IUMCO manages ISS Utilization Management functions and oversees continued consolidation and continuous improvement activities
- Phase 2 (FY2006-08)
  - Congress establishes the GCIUM
  - Formal incremental transition of ISS Utilization Management functions from NASA to the GCIUM via established transition criteria
- Phase 3 (FY2009 +)
  - GCIUM manages ISS Utilization Management functions and maximizes business practices and potential
  - NASA continues performing ISS vehicle and carrier responsibilities

Government Corporation Option

Budget and Finance

- Established as a not-for profit organization
- Provides for varied forms of funding including:
  - Direct Congressional appropriations
  - Inter-Agency transfers of funds
  - Revenue production
  - Government guaranteed loans
  - Private investment.
- Appropriations are excluded from Gramm-Rudman-Hollings (and similar legislation)
- Appropriations can be multi-year which enhance long-term planning
- Provides ownership of appropriate Government assets
- Holds tax exemption status

Personnel and Staffing

- Staffing includes special appointees, federal and/or state civil servants, academia, and industry personnel
- Exempted from Civil Service rules and regulations
- Use of Intergovernmental Personnel Act to utilize NASA (and other Agencies, as appropriate) Civil Service personnel:
  - Requires no special Congressional action
  - Temporary nature of the IPA maintains Agency technical and managerial expertise and competencies while providing “bridging” to new Agency initiatives
  - Eliminates potential loss of C.S. benefits and position
- Use of direct Service Agreements with NASA to provide technical expertise in work areas with matrixed discipline-oriented expertise
  - Maintains Agency technical competencies in specific work areas

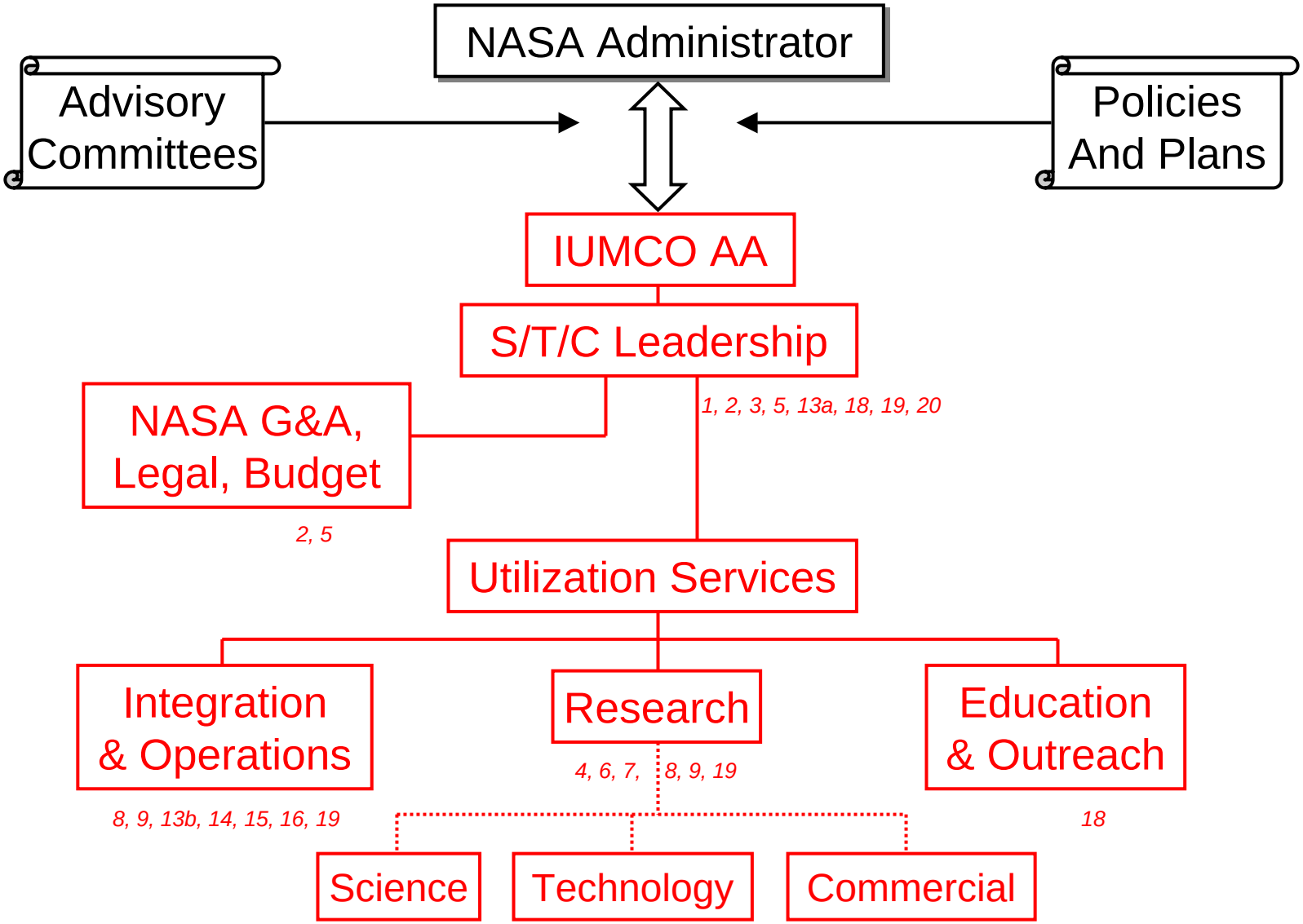
Procurement

- Can buy and sell assets and services without complying with Federal procurement and disposal regulations
  - Organization can establish and maintain a competitive and flexible environment for subcontracts
  - Enables diverse contracting approaches to capture “best practices” in delivering scientific, technological and commercial research processes

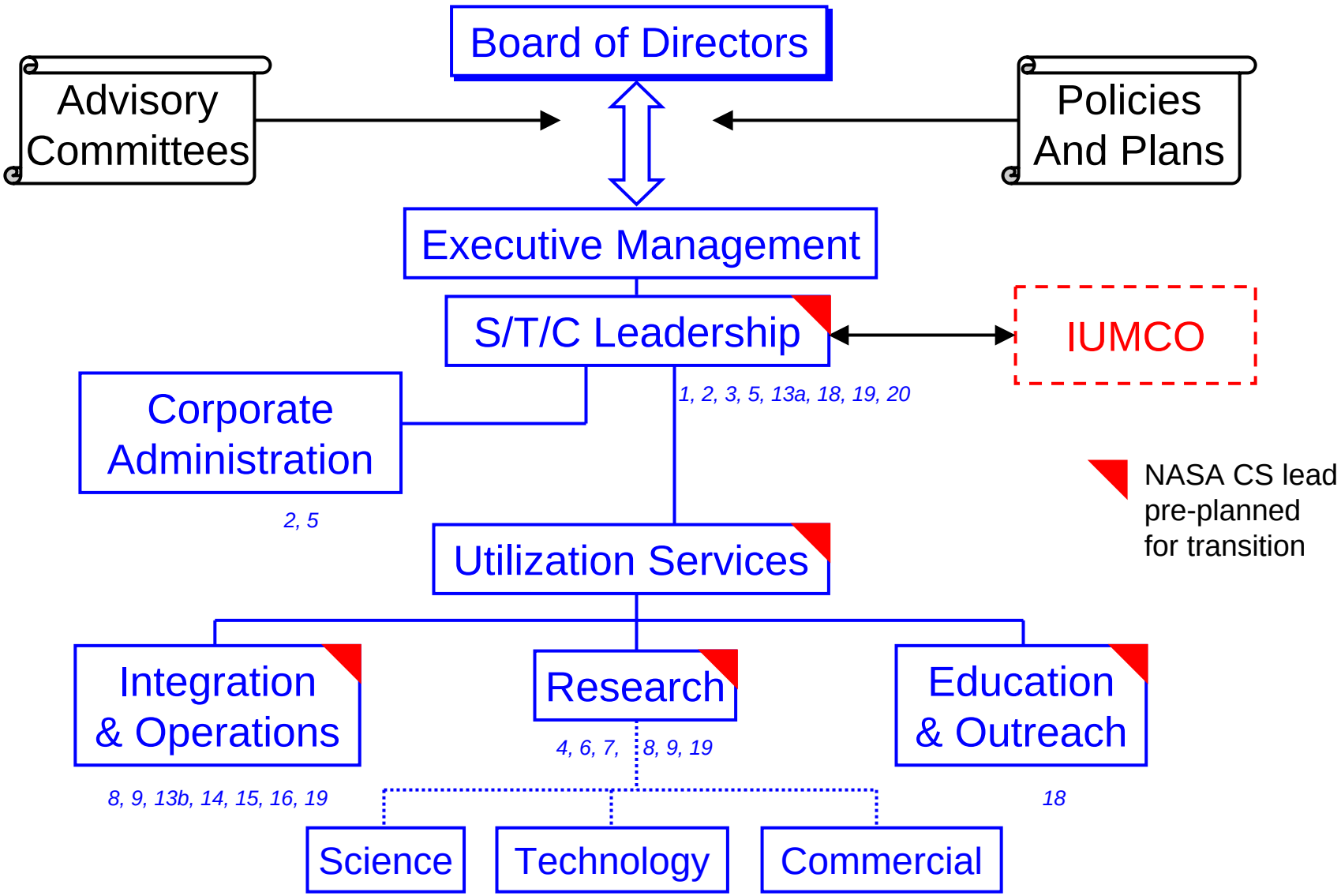
Performance Evaluation

- Phase 1 (FY2004-05) - NASA IUMCO AA reports to NASA Administrator, performance measured by:
  - Safe and effective utilization of the ISS
  - Progress on GCIUM enabling Legislation
  - Progress of NASA ISS Utilization Management consolidation and continuous improvement activities
- Phase 2 (FY2006-08) - GCIUM Board of Directors reports to Congress, performance measured by:
  - Safe and effective utilization of the ISS
  - Progress of successful transition of functions to the GCIUM
  - Progress on establishing efficient contracting and work agreements
- Phase 3 (FY2009+) - GCIUM Board of Directors reports to Congress, performance measured by:
  - Safe and effective utilization of the ISS
  - GCIUM progress towards self-sufficiency

IUMCO Organization Structure - FY2004-05

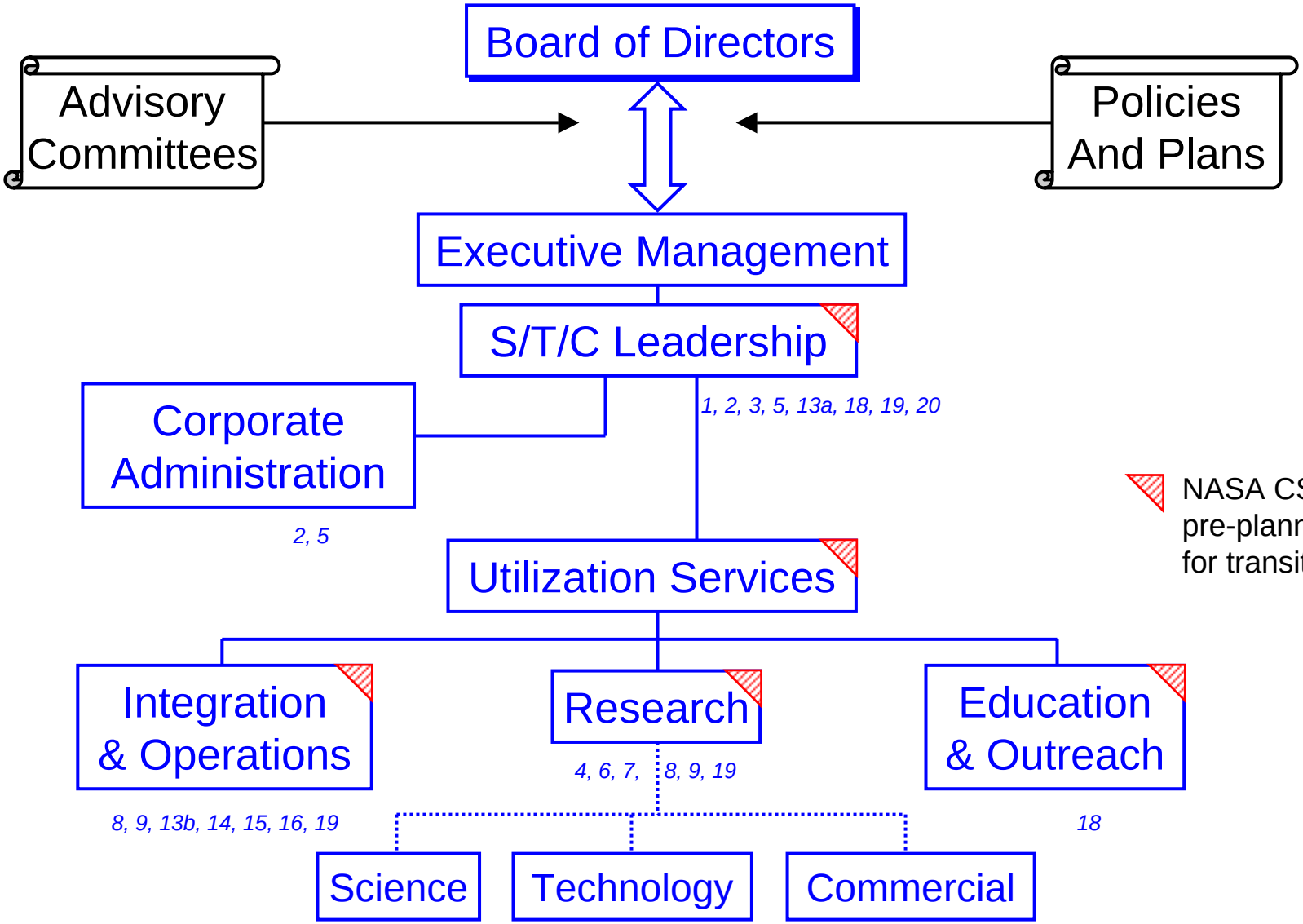


GCIUM Organization Structure - FY2006



Government Corporation Option

GCIUM Organization Structure - FY2007+



Government Corporation Option

Functional Organization*

Corporate Admin.

2. Preparing and Allocating Budgets

- - General and Administrative

Utilization Management

0. Defining and Implementing Policy and Strategic Plans (S)
1. Management of Research Utilization
2. Preparing and Allocating Budgets
3. Selecting and Prioritizing Research

13a. Advocacy, Manifesting and Resource Allocations

18. Educating and Reaching Out to the Public (including industry)

19. Recommending ISS Pre-Planned Product Improvements

20. Managing Archival of Research Samples, Data and Results

Payloads

4. Establishing Payload/Experiment Requirements and Feasibility
5. Cost, Schedule, & Risk Assessments
6. Developing and Qualifying Flight Research Systems
7. Maintaining and Sustaining Flight Research Systems
8. Developing Ground Systems
9. Maintaining and Sustaining Ground Systems

Integration

12. Certification of Safety (S)

13b. ISS Research Mission Management

14. Integrating User Missions - Analytical
15. Integrating User Missions - Physical
16. Integrating User Missions - Operational

* All functions led by the GCIUM except those noted as support (S)

U.S. Enrichment Corporation, a privatization model:

The U.S. Enrichment Corporation is a private firm established in July of 1998, a global energy company holding 75% of the North American uranium enrichment market and 40% of the World market. This company started out as an separate organization within the Department of Energy (DoE) in 1991.

1991
Establishment

Uranium Enrichment Organization

1992
Energy Policy Act creates "U.S. Enrichment Corp."

U.S. Enrichment Corporation

1996
U.S. Privatization Act permits privatization of U.S. Enrichment Corp.

U.S. Enrichment Corporation

1998
IPO of U.S. Enrichment Corp. privatizes the company

U.S. Enrichment Corporation

Government Corporation Option

Transition Overview

The Government Corporation for ISS Utilization Management (GCIUM) starts out as an Office within NASA for consolidating ISS utilization management functions. Congressional Legislation creates the Corporation and functions are handed over incrementally.

FY2004
Establishment

ISS Utilization Mgmt Consolidation Office

FY2006
Congressional Legislation creates GCIUM

Government **C**orporation for **I**SS **U**tilization **M**anagement

FY2006-2008
Incremental transition of functions to GCIUM

FY2012+ (potential)
Congressional Legislation permits privatization of GCIM

Government **C**orporation for **I**SS **U**tilization **M**anagement

FY2015+ (potential)
IPO of GCIM privatizes the company

Government **C**orporation for **I**SS **U**tilization **M**anagement

Government Corporation Option
Transition Strategy - Authority/Accountability/Performance

Phase 1 - Consolidation	Phase 2 - Transition	Phase 3 - Maturation
NASA Responsibility		**GCIUM Responsibility**

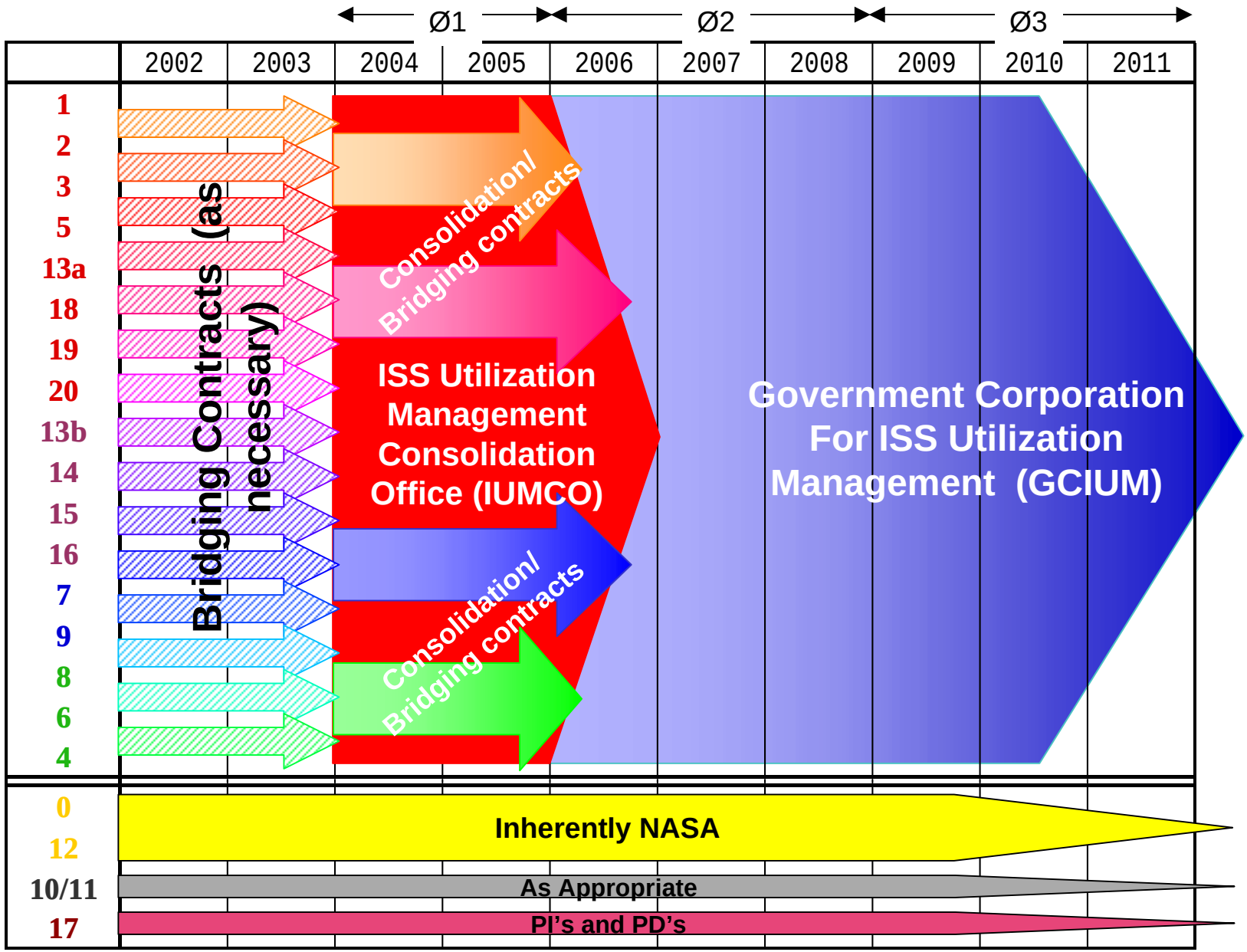
- **NASA initiates legislative action to establish the Government Corporation for ISS Utilization Management (GCIUM) as a separate entity from NASA**
- **NASA creates the ISS Utilization Management Consolidation Office (IUMCO)**
  - **Consolidates and manages implementation of ISS Utilization functions**
  - **Creates GCIUM Charter and Board of Directors Governance**
  - **Develops strategy for and manages transition of functions to the GCIUM**
  - **Assembles senior executive operating staff in advance of GCIUM creation**
- **IUMCO continues ISS Utilization management consolidation and continuous improvement activities currently underway**

- **Congress establishes the GCIUM**
- **NASA and the GCIUM staff core organizational teams**
- **GCIUM incrementally implements functions based on established transition criteria**
  - **Establishes single customer interface**
  - **Establishes non-NASA interfaces and agreements**
  - **Enables competitive contracting approaches to capture "best practices" in delivering scientific, technological and commercial research processes**
  - **Begins national & international advocacy/outreach**
  - **Establishes investment capital fund**
- **NASA maintains desired competencies through collaboration with the GCIUM**

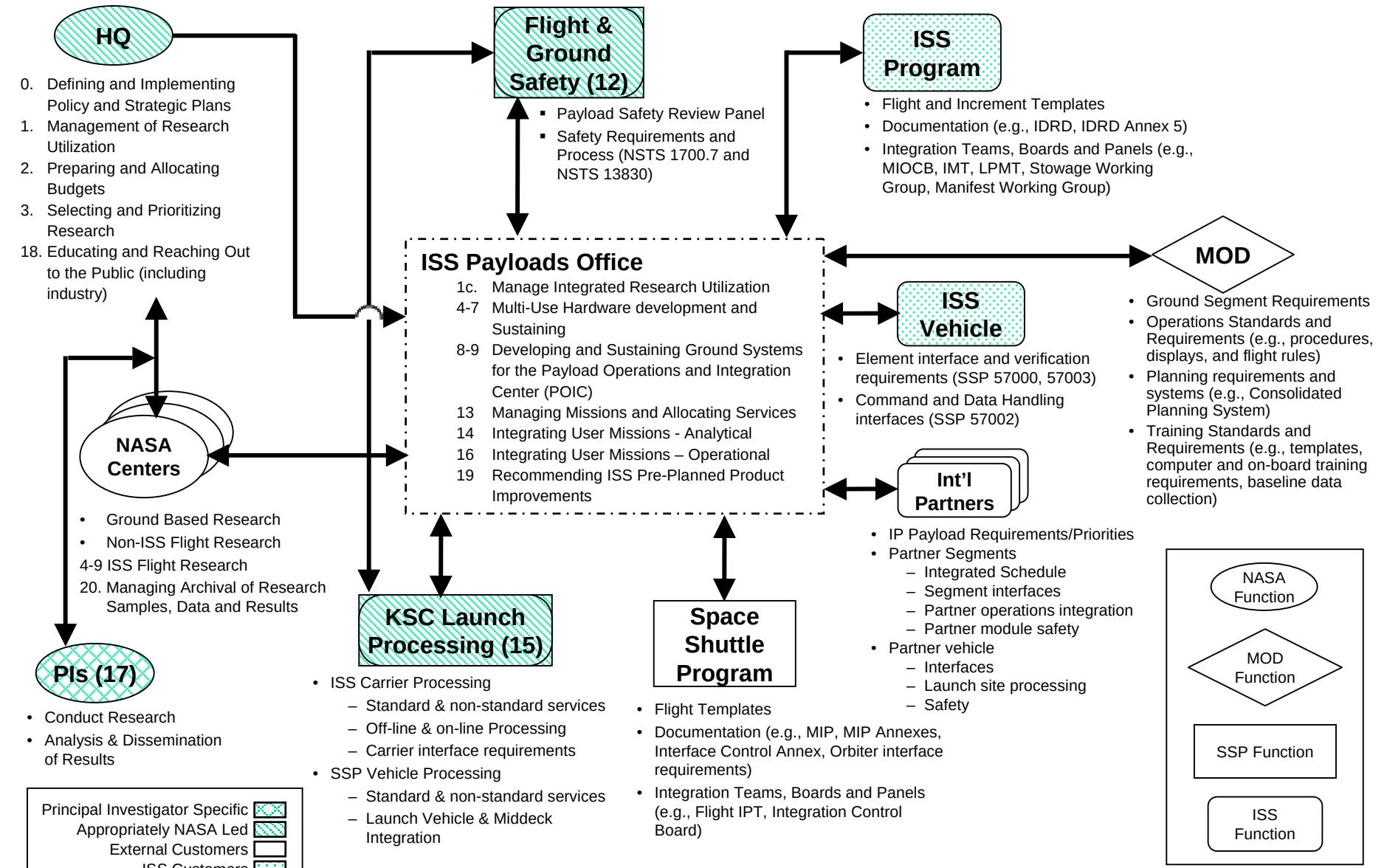
- **GCIUM maximizes commercial practices and activities**
  - **Creates new business organizations to maximize opportunities**
  - **Improves business lines**
  - **Provides private investment opportunities**
  - **Acquires and divests assets**
  - **Matures "best buy" support agreements**
  - **Promotes and enables utilization of emerging technologies and applications**
  - **Establishes capital investment portfolio**
- **NASA completes refocus of resources to other Agency Programs and Projects**

NASA continues ISS vehicle and carrier responsibilities

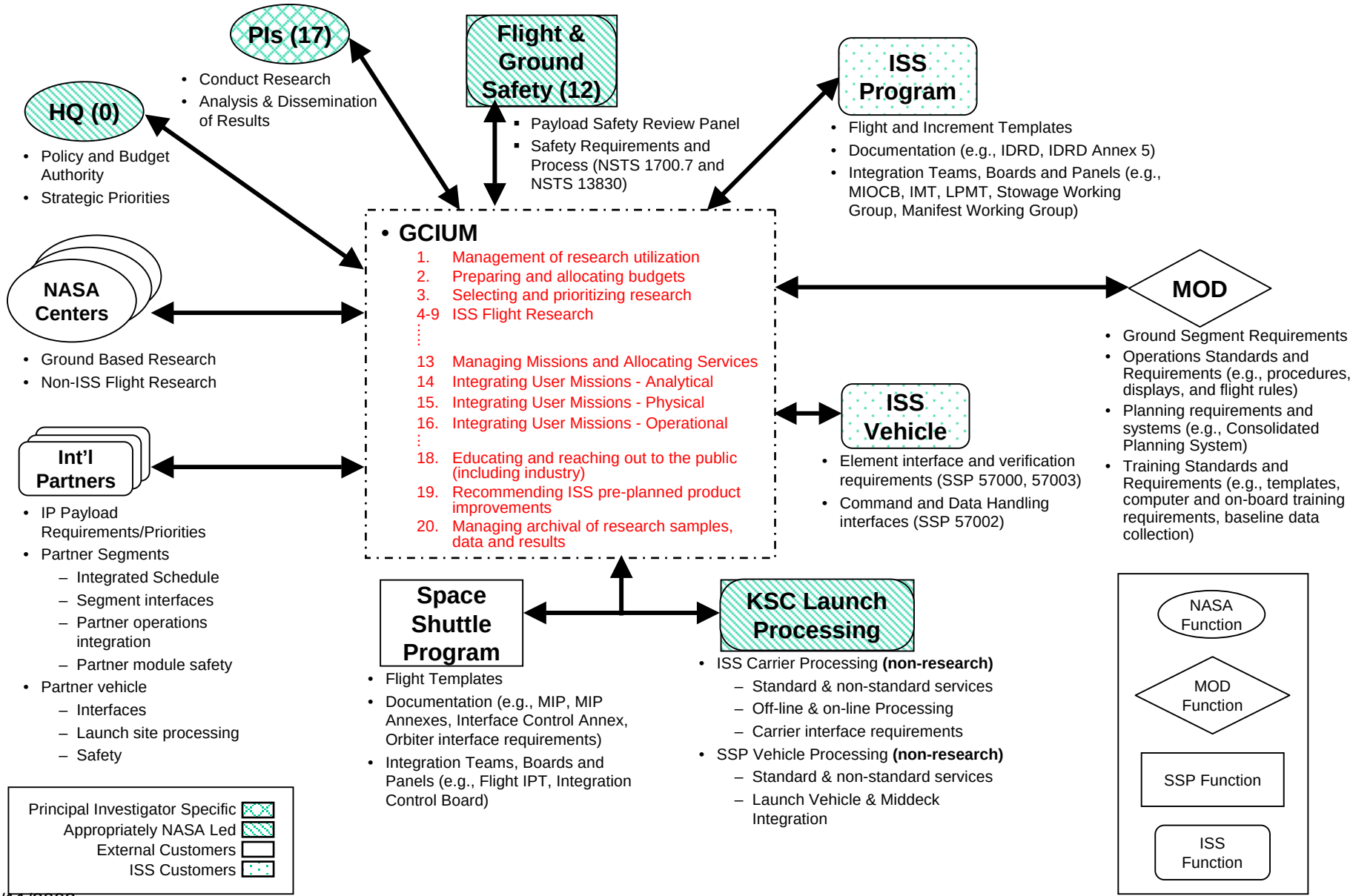
Government Corporation Option
Transition Strategy - Phasing/Contracts/Functions



Government Corporation Option
Utilization Management Interfaces - Baseline



Government Corporation Option
Utilization Management Interfaces - with GCIUM



Baseline Assumptions for all Options

- Science, Technology and Commercial utilization and their diverse community of users are the primary focus of ISS
- Cost savings is **not** an objective of NGO implementation
- Workforce and budget data was based on the OBPR POP-02 ISSRC Lead Center Recommend budget submission. Centers provided their best estimate, partitioned across the 21 functions. Data was accepted as submitted and no cross-Center analysis was performed.
- Centers supplied workforce competency priorities associated with the 21 functions using a high/medium/low scale. Data was accepted as submitted and no attempt was made to normalize the input.
- The Option analyzed represents a point-source solution and a number of reasonable variations of the option exist as valid solutions
- Additional detail will be required for implementation of any variation of the option
- No assessment was made on the value of doing this study

Baseline Assumptions for all Options, cont'd

- A WBS based on the 21 functions reasonably captures the scope of current work performed for ISS Utilization
- Budget and workforce estimates were partitioned at the 21 function level and are considered sufficient for the purpose of model development and cross-comparison of the options
- A limited number of diverse options are sufficient to characterize the range of approaches the Agency might pursue in implementing an NGO
  - Ability to meet objectives
  - Ease of implementation
  - Impact to workforce, competencies and facilities
  - Advantages and disadvantages
- The application of current NASA interpretation of OFPP 92-1 was adequate to identify inherently/appropriately governmental (NASA) functions in the WBS (see next page)

Baseline Assumptions for all Options, cont'd

Initial assessment of ISS Utilization **inherently governmental** functions:

All - Function 0, Define, Develop and Implement Policy and Strategic Plans

Portions - Function 2, Preparing and Allocating Budgets
- 2.1 Budget Formulation (except 2.1.1.5)
- 2.2 Budget Justification
- 2.3 Budget Execution (except 2.3.4.4)

Portions - Function 5, Developing Cost, Schedule, and Risk Assessments
- 5.5 Authority to Proceed

Portions - Function 12, Certifying Safety of Research Flight and Ground Systems
- 12.2.2.2 Issue Certificate of Flight Readiness Statement

Initial assessment of ISS Utilization **appropriately governmental** functions:

All - Function 12, Certifying Safety of Research Flight and Ground Systems

All - Function 15, Integrating User Missions - Physical

These initial assessments have been coordinated with the staff of the Competitive Sourcing Review Board

Baseline Assumptions for all Options, cont'd

- Major ISS development schedule milestones are:
  - US Core Complete by FY 2004
  - IP Core complete by FY 2007 - 08, 3 person crew
  - 4 flights per year to ISS
- ISS Utilization resources assumed per current ISS program constraints (e.g. crew, power, upmass, etc.)
- The ISS user community is retained for the life of ISS and is comprised of OBPR, OSS, OES, OSF, internationals, other Agencies, commercial users, etc.
- A generalization of facility impacts (high, medium, low) is sufficient to characterize the implications of each this Option
- Identified contracts that may be affected by the transfer of work and assumed that novations, terminations, competitions, modifications and/or bridging may be required
- Costs associated with any contract actions have not been identified

Baseline Assumptions for all Options, cont'd

- Budget and workforce data is based on the OBPR POP-02 ISSRC Lead Center Recommend budget submission
- Budget and workforce data reflects the Code U Enterprise only
- Budget and workforce results are relative and are for comparison across Options only
- Budget numbers are not adjusted for full cost accounting
- For estimating purposes, assumed $150K per FTE
  - Used for additional/new workforce
  - Used for civil service work transitioned to new organization
- No workforce efficiencies assumed beyond those included in POP-02
- Workforce for existing functions is transferred on a one-for-one basis with no assumptions of efficiencies gained
- Infrastructure costs (management, overhead, G&A, etc.) for all Options requires 20% of total organization workforce

Strategies

- Workforce
- Competencies
- Contracts
- Facilities

Civil Service Workforce Strategy

Phase 1: Consolidation FY 2004 – FY 2005

- The IUMCO is responsible for ISS Utilization Management and aggressively pursues continuous improvements and streamlining to maximize ISS Utilization and to improve services to the User community. The IUMCO utilizes the existing NASA workforce to perform its mission. All NASA ISS Utilization personnel programmatically report to the IUMCO. The IUMCO is also responsible for planning, coordinating and implementing the transition to the GCIUM. In this timeframe, additional IUMCO key leadership positions above the current CS workforce level will be required. The “best and brightest” will be recruited through the use of IPAs, term appointments, etc.

Civil Service Workforce Strategy, cont'd

Phase 2: Transition FY 2006 – FY 2008

- The GCIUM is established in FY06 and assumes management of ISS Utilization. In FY06, an appropriate number of NASA ISS Utilization personnel from the IUMCO transfer (via IPA) to the GCIUM. Key leadership personnel recruited in Phase 1 are converted to GCIUM employees. Performance of some functions will be managed by the GCIUM but executed by NASA organizations through service agreements established between NASA and the GCIUM. In subsequent years, appropriate numbers of NASA IPAs leave the GCIUM and return to NASA. The GCIUM continues to hire to meet its required staffing priorities. This approach allows NASA to sustain priority competencies for future needs while allowing a smooth transition of capabilities and expertise to the GCIUM. This flexible staffing approach allows the GCIUM to become a strategic partner with NASA in enhancing human capital strategies of both entities.

Civil Service Workforce Strategy, cont'd

Phase 3: Maturation FY 2009+

- GCIUM has the responsibility to manage all ISS Utilization functions. The ongoing relationship between the GCIUM and NASA continues via the flexible staffing approach and service agreements with NASA organizations. The long-range strategy is to gradually decrease the number of NASA IPAs as the GCIUM gains corporate knowledge and experience. These IPAs return to NASA with enhanced competencies and an increased experience base for application to new NASA Programs and Projects.

Competencies Strategy

Phase 1: Consolidation FY 2004 – FY 2005

- IUMCO approach maintains all existing competencies within NASA through Phase 1.
- Center and Agency competency requirements are addressed by the IUMCO to develop transition strategies for the GCIUM.

Phases 2-3: Transition and Maturation FY 2006+

- Center and Agency competency requirements are addressed and reflected in the GCIUM implementation staffing strategies.
- The unique staffing approach ensures NASA and the GCIUM, as strategic partners, both benefit from shared resource and developmental opportunities.
- As NASA IPAs return to NASA over time, the Agency must exercise its human capital strategies to absorb returning workforce.

Contracts Strategy

Phase 1: Consolidation FY 2004 - FY 2005

- All NASA ISS Utilization contracts are under IUMCO direction. Contract consolidations continue as appropriate to improve and streamline the ISS Utilization Program. The IUMCO establishes strategies for the GCIUM to transition contracts as appropriate.

Phase 2: Transition FY 2006 - FY 2008

- The GCIUM is established in FY06 and assumes management of ISS Utilization contracts. A variety of contract actions will be necessary and may include novation, competition, separation, and termination. Actions will be addressed on a contract-by-contract basis, based on NASA/GCIUM transition strategies established in Phase 1.

Phase 3: Maturation FY 2009+

- GCIUM administers and manages all ISS Utilization Management contracts.

Facilities Strategy

Phase 1: Consolidation FY 2004 - FY 2005

- All NASA ISS Utilization dedicated and multi-purpose facilities remain government property under NASA IUMCO direction.

Phase 2: Transition FY 2006 - FY 2008

- NASA transfers ownership of ISS Utilization-dedicated facilities to the GCIUM as the GCIUM takes responsibility for the functions associated with them.
- ISS Multi-purpose facilities remain the property of NASA. The GCIUM performs facility management (budgeting, utilities, planning, etc.) for ISS Utilization portions of those multi-purpose facilities concurrent with implementing the associated functions. Overall management of multi-purpose facilities will be formally coordinated between NASA and the GCIUM to assure integrated planning and budgeting.

Phase 3: Maturation FY 2009+

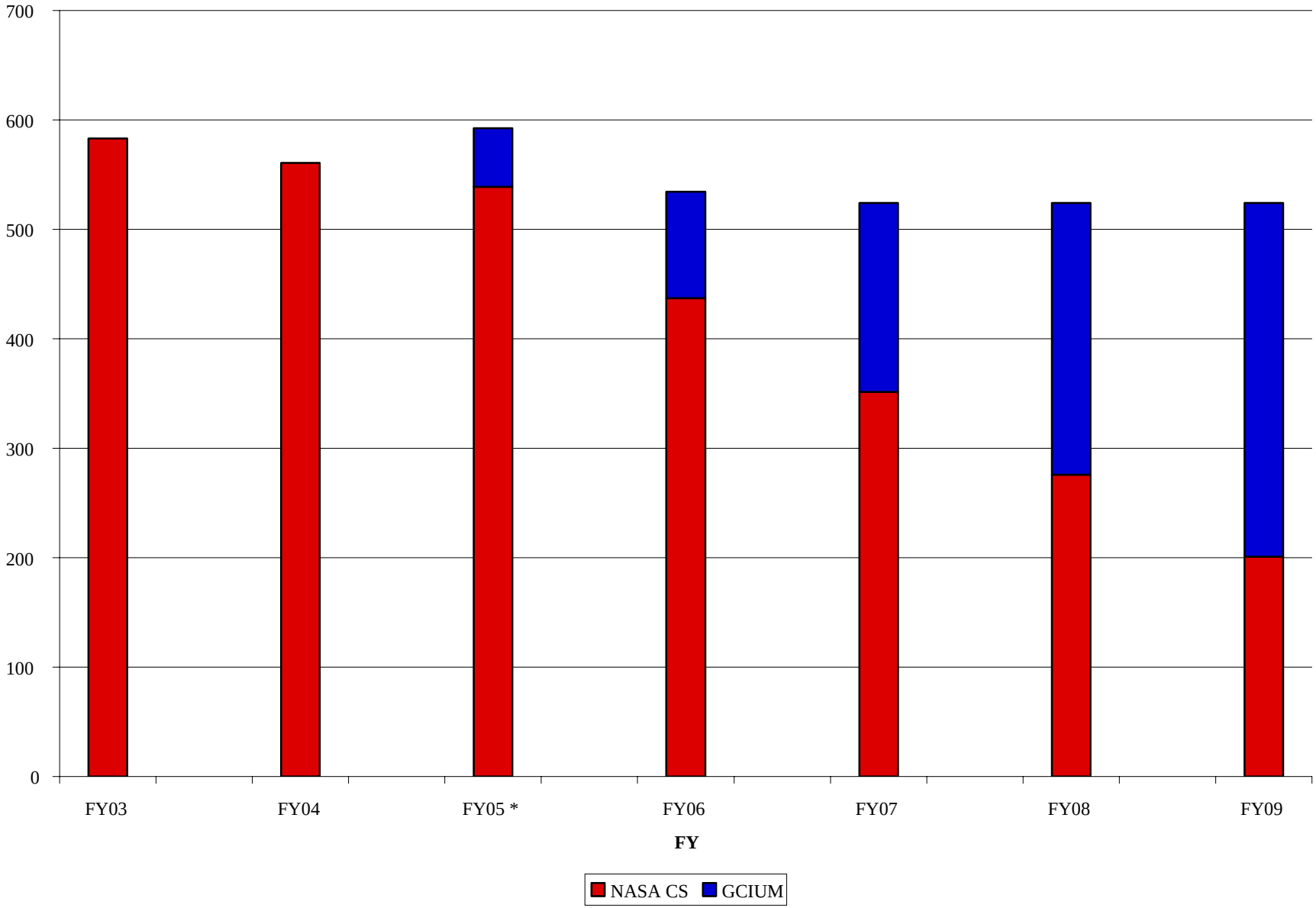
- The GCIUM owns and operates ISS Utilization-dedicated facilities. The GCIUM and NASA continue formal coordination of overall facilities management of ISS Multi-purpose facilities.

Outcomes

- Workforce
- Competencies
- Budget
- Contracts
- Facilities

Government Corporation Option

Civil Service Workforce Outcomes



* GCIUM number represents key employees IPA'd to NASA working under the IUMCO

Government Corporation Option
Workforce Outcomes

FUNCTION	FY	CS to NGO	IPA to NGO	Cont. to NGO	Additional Workforce	Infrastruct (total only)	Total NGO
0	FY03	0	0	0	0	-	0
	FY05	0	0	0	0	-	0
	FY07	0	0	0	0	-	0
1	FY03	0	0	0	0	-	0
	FY05	0	0	0	2	-	2
	FY07	0	12	25	6	-	43
2	FY03	0	0	0	0	-	0
	FY05	0	0	0	2	-	2
	FY07	0	13	7	6	-	27
3	FY03	0	0	0	0	-	0
	FY05	0	0	0	0	-	0
	FY07	0	2	0	1	-	4
4	FY03	0	0	0	0	-	0
	FY05	0	0	0	2	-	2
	FY07	0	12	66	6	-	84
5	FY03	0	0	0	0	-	0
	FY05	0	0	0	3	-	3
	FY07	0	22	20	11	-	52
6	FY03	0	0	0	0	-	0
	FY05	0	0	0	10	-	10
	FY07	0	50	184	25	-	258
7	FY03	0	0	0	0	-	0
	FY05	0	0	0	3	-	3
	FY07	0	23	157	11	-	190
8	FY03	0	0	0	0	-	0
	FY05	0	0	0	2	-	2
	FY07	0	14	31	7	-	52
9	FY03	0	0	0	0	-	0
	FY05	0	0	0	5	-	5
	FY07	0	30	169	15	-	213
10	FY03	0	0	0	0	-	0
	FY05	0	0	0	0	-	0
	FY07	0	1	7	0	-	8

FUNCTION	FY	CS to NGO	IPA to NGO	Cont. to NGO	Additional Workforce	Infrastruct (total only)	Total NGO
11	FY03	0	0	0	0	-	0
	FY05	0	0	0	1	-	1
	FY07	0	4	37	2	-	43
12	FY03	0	0	0	0	-	0
	FY05	0	0	0	0	-	0
	FY07	0	0	0	0	-	0
13	FY03	0	0	0	0	-	0
	FY05	0	0	0	3	-	3
	FY07	0	20	77	10	-	107
14	FY03	0	0	0	0	-	0
	FY05	0	0	0	5	-	5
	FY07	0	32	192	16	-	240
15	FY03	0	0	0	0	-	0
	FY05	0	0	0	9	-	9
	FY07	0	62	132	30	-	224
16	FY03	0	0	0	0	-	0
	FY05	0	0	0	6	-	6
	FY07	0	37	269	18	-	324
17	FY03	0	0	0	0	-	0
	FY05	0	0	0	0	-	0
	FY07	0	0	0	0	-	0
18	FY03	0	0	0	0	-	0
	FY05	0	0	0	1	-	1
	FY07	0	9	18	5	-	32
19	FY03	0	0	0	0	-	0
	FY05	0	0	0	0	-	0
	FY07	0	2	5	1	-	7
20	FY03	0	0	0	0	-	0
	FY05	0	0	0	1	-	1
	FY07	0	7	24	3	-	34
Total	**FY03**	**0**	**0**	**0**	**0**	**0**	**0**
	FY05	**0**	**0**	**0**	**54**	**11**	**65**
	FY07	**0**	**351**	**1419**	**173**	**389**	**2331**

Competencies Outcomes

- Ability to IPA NASA civil service employees to the GCIUM will allow NASA to retain its competency base to meet future program and project needs.
- IPA assignments will strengthen and expand civil service workforce competencies and skill base as workforce IPA'd to the GCIUM will work in a collaborative environment with others considered to be the "best and brightest" from academia, industry and other government agencies. The experience of working in this collaborative, enriching environment can also be viewed as a training and/or enhancement opportunity for employees.
- Ability to IPA NASA civil service employees to the GCIUM will allow for a smooth and safe transition of functions and expertise during ongoing operations.
- NASA will need to establish new programs and projects and a human capital strategy to effectively utilize the returning workforce.

Government Corporation Option
Budget* Outcomes

FUNCTION	FY	CS to NGO $M @ $150K each [NO IPAs]	NGO R&D $M	Additional Workforce $M @ $150K each	Infrastruct (total only)	Total $M
0	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.00	-	0.00
	FY07	0.00	0.00	0.00	-	0.00
1	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.26	-	0.26
	FY07	0.00	3.90	0.89	-	4.79
2	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.28	-	0.28
	FY07	0.00	1.89	0.97	-	2.86
3	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.05	-	0.05
	FY07	0.00	0.15	0.18	-	0.33
4	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.35	-	0.35
	FY07	0.00	16.05	0.87	-	16.92
5	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.41	-	0.41
	FY07	0.00	6.66	1.61	-	8.26
6	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	1.52	-	1.52
	FY07	0.00	34.67	3.69	-	38.35
7	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.47	-	0.47
	FY07	0.00	37.83	1.66	-	39.50
8	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.28	-	0.28
	FY07	0.00	7.64	1.03	-	8.68
9	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.74	-	0.74
	FY07	0.00	8.79	2.19	-	10.98
10	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.02	-	0.02
	FY07	0.00	0.00	0.07	-	0.07

FUNCTION	FY	CS to NGO $M @ $150K each [NO IPAs]	NGO R&D $M	Additional Workforce $M @ $150K each	Infrastruct (total only)	Total $M
11	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.10	-	0.10
	FY07	0.00	0.00	0.33	-	0.33
12	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.00	-	0.00
	FY07	0.00	0.00	0.00	-	0.00
13	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.45	-	0.45
	FY07	0.00	14.35	1.50	-	15.86
14	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.69	-	0.69
	FY07	0.00	35.17	2.36	-	37.53
15	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	1.30	-	1.30
	FY07	0.00	22.16	4.57	-	26.73
16	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.85	-	0.85
	FY07	0.00	45.48	2.71	-	48.19
17	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.00	-	0.00
	FY07	0.00	0.00	0.00	-	0.00
18	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.17	-	0.17
	FY07	0.00	3.94	0.70	-	4.64
19	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.04	-	0.04
	FY07	0.00	0.80	0.12	-	0.92
20	FY03	0.00	0.00	0.00	-	0.00
	FY05	0.00	0.00	0.11	-	0.11
	FY07	0.00	2.96	0.48	-	3.44
Total	**FY03**	**0.00**	**0.00**	**0.00**	**0.00**	0.00
	FY05	**0.00**	**0.00**	**8.08**	**1.62**	9.70
	FY07	**0.00**	**242.44**	**25.93**	**58.29**	326.65

* Captures totality across workforce. Additional NASA cost is eliminated because it is assumed by the GCIUM

Contracts Outcomes

- During Phase 1, all contracts associated with ISS Utilization Management will be assessed by the IUMCO in terms of the scope of functions performed, schedule and phasing of contract support, and potential for alternative contract arrangements.

- All contracts wholly associated with ISS Utilization will be transitioned to the GCIUM using a transition schedule developed by the IUMCO. Contracts supporting additional functions outside of ISS Utilization will be separated. Other methods for contract transitions could include novation, termination, competition, and modification as deemed appropriate.

- Costs associated with contract actions will be an additional cost.

Facility Outcomes

- All facility data received by the ISS Utilization Management Concept Development Team is based on initial Field Center input
  - It has not been integrated consistently across all Centers and facilities
  - It is to be updated under the direction of HQ/Code JX
- Based on the initial input received and the Government Corporation facility strategy outlined on page 38:
  - No NASA facilities transfer ownership to the GCIUM
  - The GCIUM will utilize a number of NASA facilities to perform its functions. Agreements on usage of these facilities, and resultant funding the GCIUM will provide to NASA , will be determined by the IUMCO.

Government Corporation Option
Goals of an Alternative ISS Utilization Management Organization

- Ability to advocate and advance user needs
- Establishment of S/T/C focused leadership
  - Research outcome and outreach focused
  - Research-knowledgeable
  - Community recognized and respected user voice
  - Ability to synergize and leverage academic and industry research requirements
- Elimination of existing NASA organizational barriers that inhibit utilization
- Simplification of interfaces and processes
  - Processes and templates customized to S/T/C user needs
  - Focus on “best business practices” that reduce templates and documentation requirements and streamline processes
  - Simple and clear user interfaces
- Ability to generate alternative revenue sources
- Minimization of Agency impacts (workforce, competencies)

Goals Outcomes

Ability to advocate and advance user needs

- Single organization able to serve as a strong voice to advocate for user needs
  - Direct linkage to academia, industry, NASA and Congress
  - Ability to lobby for additional funding, on-orbit platform resources and transportation availability
- Led by world-class academic, industrial and engineering researchers who understand, and have as a first priority the advancement of, user requirements
- Understands NASA resource limitations via S/T/C leadership serving in the IUMCO prior to GCIUM approval and civil service workforce assigned to the GCIUM

Goals Outcomes, cont'd

Establishment of S/T/C focused leadership

- Led by academic and industrial researchers:
  - Who understand, and have as a first priority the advancement of, research requirements
  - Are respected peers of the user community
  - Have the knowledgebase to recognize and leverage commonality
  - Know how to communicate research goals and outcomes to the peer community and the general public
- Mix of S/T/C leadership allows for a collaborative environment:
  - Can balance diverse research needs
  - Can advance emerging areas of interest

Goals Outcomes, cont'd

Elimination of existing organizational barriers that inhibit utilization

- Organization which exists outside of NASA eliminates existing Agency internal barriers:
  - Conflicts of interest (e.g. vehicle needs verses researcher needs)
  - Multiple points of contact
  - Overlapping and poorly defined lines of authority and responsibilities
  - Layers of management
  - Lack of communication
- Organization whose sole purpose is the advancement of research can focus on organizational efficiencies that will advance goals and minimize barriers

Goals Outcomes, cont'd

Simplification of interfaces and processes

- Processes and templates customized to S/T/C user needs
- Corporate nature focuses on "best business practices" that reduce templates and documentation requirements and streamline processes
- Single organization allows simple and clear user interfaces
- Organizational focus on research advancement should establish and implement processes and templates that are streamlined and efficient

Ability to generate alternative revenue sources

- Provides for varied forms of funding including:
  - Direct Congressional appropriations
  - Inter-Agency transfers of funds
  - Revenue production
  - Government guaranteed loans
  - Private investment

Goals Outcomes, cont'd

Minimization of Agency impacts

- Use of Interagency Personnel Act to utilize NASA (and other Agencies, as appropriate) Civil Service personnel to allow for retention of critical skills:
  - Requires no special Congressional action
  - Temporary nature of the IPA maintains Agency technical and managerial expertise and competencies while providing "bridging" to new Agency initiatives
  - Eliminates potential loss of C.S. benefits and position
- Use of direct Service Agreements with NASA to provide technical expertise in work areas with matrixed discipline-oriented expertise
  - Maintains Agency technical competencies in specific work areas

Government Corporation Option
Advantages/Disadvantages/Risks

G-Corp	Advantages	Disadvantages	Risk	Risk Mitigation
Legal Structure	Can perform Inherently Governmental functions	Requires a Charter of Incorporation written by Congress	Congress may be unwilling to Charter the G-Corp	Case for the G-Corp must be well made and represented through traditional Congressional concensus-building
	Can hold property and loan property to other organizations	Final Charter content is not controlled by NASA	Scope and content of Charter can change beyond intent of NASA concept	Scope and content of the G-Corp must be well defined and represented through traditional Congressional concensus-building
	Can sue without Justice Department authorization	Potential for conflicts between public purpose and private profit-making interests	Profit-making maximization could be at odds with the execution of national policy objectives	Well-crafted Congressional Charter must make clear the roles and responsibilities of the Corporation itself, the Executive Management, and the Board of Directors
	Is exempted from selected CS rules and Freedom of Information Act limitations			
	Can engage in advertising and self-promotion activities			
	Can make agreements with other governments			
Budget and Finance	Direct Congressional appropriation for the G-Corp base funding eliminates vehicle -vs.- utilization conflict in ISS Utilization budget	Establishment of the G-Corp reduces the NASA budget for those functions moved to the G-Corp	NASA has reduced potential for covering ISS vehicle problems/cost overruns	ISS vehicle costs and technical issues must be well managed
	Various methods of funding are available, including: • Direct Congressional appropriations • Government-guaranteed loans • Fees for performance and services	Additional budget required to implement	Congress may not agree to authorize additional funding	Case for G-Corp and required funding must be well made through traditional Congressional concensus-building
	Ability to mix appropriated and revenue funding to maximize accomplishment of research goals and objectives	Possible need to introduce or raise fees for provided services to commercial users	Lack of demand could lower revenues which force raising of fees to compensate, thus resulting in higher costs for research	Direct Congressional appropriation for the Government Corporation base funding would need to be increased to maintain level fees to cover actual costs
	Use of standard accounting practices traditionally applied by industry	Flexibility of standard accounting practices provides opportunities for inappropriate or unethical practices	Lack of integrity in the implementation of standard accounting practices can lead to unethical and detrimental financial results for the stakeholders	CFO and accounting staff must be experienced, and leadership must instill high ethical practices while implementing appropriate controls and independent reviews
	Eliminates Gramm-Rudman-Hollings cap impacts			
	Provides special tax exemption status			

Government Corporation Option
Advantages/Disadvantages/Risks, cont'd

G-Corp	Advantages	Disadvantages	Risk	Risk Mitigation
Personnel and Staffing	Ability to attract and hire best and brightest through relaxed staffing rules and regulations	Potential for salary and compensation discrepancies	Potential for negative employee moral issues	Sponsoring organization can use bonuses, awards, or other recognition as individual incentives to "close the gap"
	Ability to quickly hire and fire	Exemption of staffing rules and regulations must be included in the G-Corp charter	Congress may not want to include exemptions in the G-Corp Charter	Case for the exemptions must be well-made and represented through traditional Congressional concensus-building
	Creation of a collaborative, "single badge" environment of skills and expertise from academia, industry and government	Potential for possible sponsoring organization re-entry efficiencies	Re-entry employees may require some adjustment time upon returning to the sponsoring organization	Is worth the disadvantage considering the preservation of core competencies, bridging of functional transition to the NGO, and should bring back varied skills from their experience which will benefit the sponsoring organization (human capital investment)
	Assimilation of leadership with a common objective and focus on research	Six-year limit on IPA arrangements, exceptions require OMB approval. Four-year IPA term arrangements with a required 30-day contiguous return to sponsoring organization between 4-year terms.		
	Ability to initiate organization rapidly with experienced staff			
	Preservation of Agency competencies via ability to allow civil service to participate in G-Corp through the IPA process			
	Direct participation of Civil Service without loss of benefits and position			
	Provides opportunities for G-Corp staff to enhance skills and competencies prior to returning to sponsoring organization			
Management Structure and Interfaces	Recognizes the need for and enables a "process-driven" organizational structure to accomplish the diverse nature of "best practices" unique to scientific, technological, and commercial research endeavors	Removal of functions from NASA may reduce Agency's ability to "spread" expertise across Programs in a timely fashion	Potential for Agency to temporarily "lose" expertise to the NGO via IPAs	Agency must carefully think out strategies and plans for retaining and improving core competencies via the use of personnel in the NGO
	Operates with a National stature and allows direct International Partner interfaces			
	Does not disrupt previous IP agreements			
	Structure is flexible to adapt to changing customer base, needs and demands			
	Direct access and visibility to Congress			
	Provides a single interface for negotiating total research user requirements with NASA and other organizations			

Government Corporation Option
Advantages/Disadvantages/Risks, cont'd

G-Corp	Advantages	Disadvantages	Risk	Risk Mitigation
Procurement	Alleviation of requirement to comply with Federal procurement and disposal regulations improves acquisition processes and enables rapid responses to evolving needs and requirements, including: • Ability to quickly award contracts, grants, et	Requires government corporation Charter to clearly authorize procurement capabilities	Potential for Charter to not encompass the range of flexibility envisioned	Case for proceurement flexibility must be well made through traditional Congressional concensus-building
	Provides capability to assume existing ISS contracts by novation from NASA without incurring additional cost			
Timeframe and Schedule	Takes advantage of consolidation and process improvements already underway within the Agency	Time required for Congressional authorization	Approval process could be lengthy	Case for G-Corp must be well made through traditional Congressional concensus-building
	Allows for quick initiation toward an NGO concept			
	Allows for quicker incremental transfer of responsibilities			
	Provides a smooth transition of critical skills from NASA to the Government Corporation			
	Reduces risks of critical skills leaving the Agency			
	Allows for smooth transition of existing contracts to the Government Corporation			

Summary

The Federal Government Corporation Option offers:

- The power and authority of the Federal Government with the operating flexibility of a private business.
- Extremely high visibility (e.g. Congress) and the capability for self-promotion and revenue production.
- The ability to smoothly and safely transition functions and personnel without disrupting ongoing operations.
- A straightforward method for competency and skill retention across NASA and the Government Corporation.
- The flexibility to transition contracts efficiently for best buy and best practice maximization.

Backup Material

- Context
- Background
- Generic Organization Model
- Down-Select Rationale
- Red Team II Comments

Context

"Experience indicates that the corporation form of government is peculiarly adapted to the administration of governmental programs which are predominately of a commercial nature, are at least potentially self-sustaining, and involve a large number of business-type transactions with the public."

-Harry S. Truman

Budget Message to Congress, 1948

Government Corporation Option
Context, cont'd

- First Government Corporation ("The Bank of North America"; 1781) pre-dates the Constitution
- First Federal Government Corporation ("The Bank of the United States") formed in 1791
- Average of 1 per year created by Congress since WWII
- About 50 currently existing today chartered by Congress to achieve specific National policy goals (i.e. TVA, Amtrak, COMSAT, etc.)

"Mergers, acquisitions, subsidiaries, and asset sale are standard tools for the implementation of corporate strategy…The United States has a similar instrument for the implementation of national policy: the Federal Government Corporation."[1]

"In an era of decreasing federal budgets, increasing constraints on personnel, and growing emphasis on achieving efficiency and productivity, the Federal Government Corporation structure can be used to realize a renewed focus on core responsibilities…"[1]

1) "Non-traditional Approaches to Partnering with with Industry,"

Background

- A Federal Government Corporation combines the flexibility of a business with the public purpose and public duties of a traditional governmental organization
- The authority to charter a Government Corporation derives from the Necessary and Proper Clause of the U.S. Constitution (chartered by a Federal Charter or chartered under incorporation laws of the District of Columbia):

  "To make all laws which shall be necessary and proper for carrying into execution the foregoing powers and all other powers vested by this Constitution in the Government of the United States or in any Department or Office thereof."
- Federal Government Corporations have been used as instruments of national policy because of their efficiencies arising from commercial market forces, their flexibilities with regard to encumbering regulations, and their ability to access financial alternatives
- Almost all Government Corporations are governed by a Board of Directors elected by the stakeholders and/or the President, sometimes subject to Senate Confirmation.

Background, cont'd

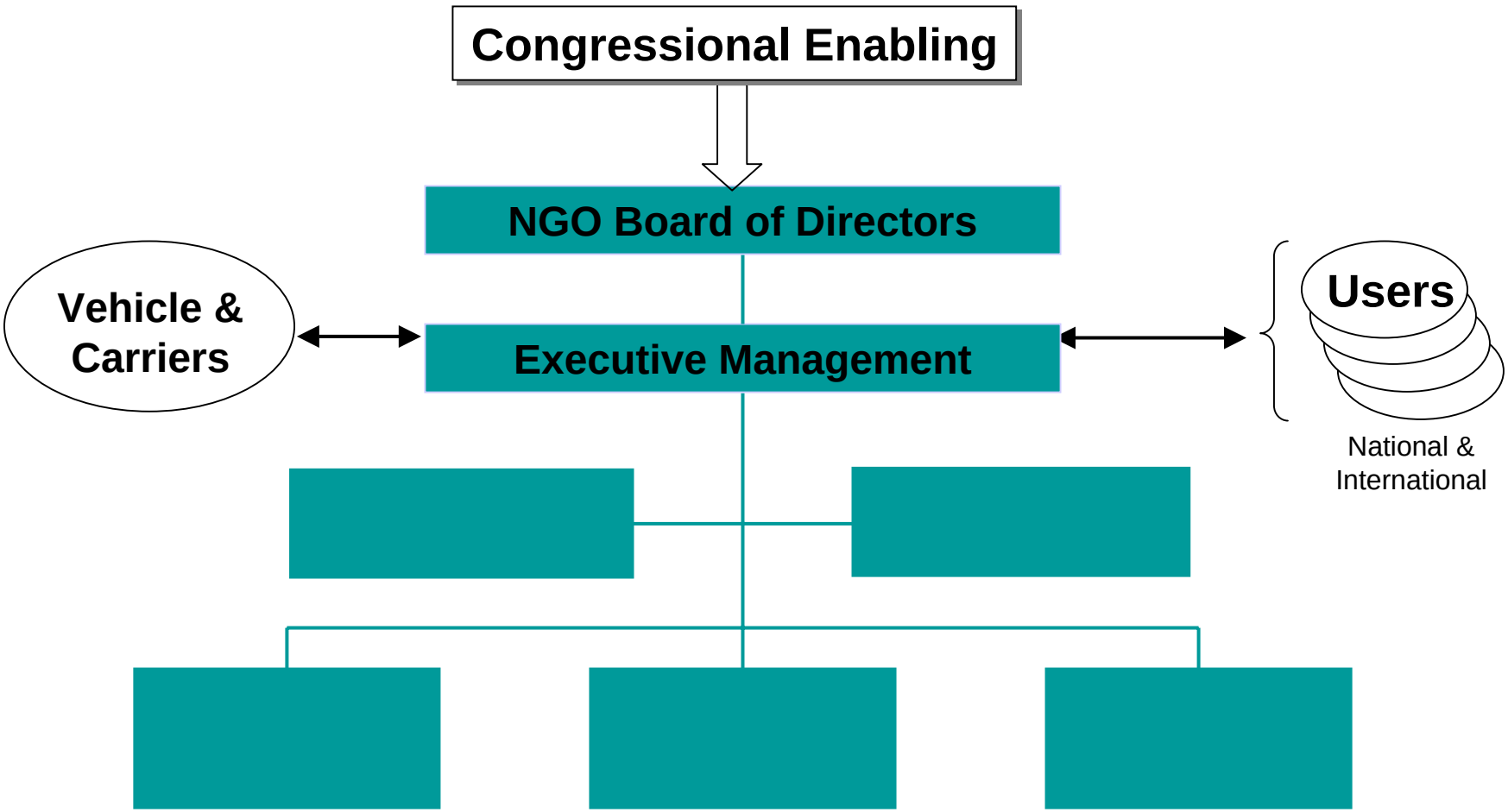
- Advantages of a Government Corporation that are unavailable to traditional business firms:
  - National establishment
  - Exemption from state taxes and portions of securities laws
  - Privileged access to capital
  - Sovereign immunity
- Almost any Government Corporation has permanent succession and the following capacities:
  - To make contracts
  - To hold property
  - To borrow
  - To sue and be sued (and settle cases without Justice Department authorization)
- Government Corporations are run on "business-like" principles, but enjoy budgetary freedoms denied to ordinary Federal Agencies
  - Mix of Revenue and Congressional appropriations
  - Not subject to "use it or lose it" rule
  - Multi-year commitments allow long-term planning

Background, cont'd

- Government Corporations can buy and sell assets without complying with Federal procurement and disposal regulations
- Many Government Corporations issue stock, some or all of which is owned by legal or national private persons. They are defined as:
  - Wholly owned
    - 100% equity and voting
    - Government "Agency"
    - Administrative Procedure Act
  - Mixed ownership
    - Some or none of the equity is owned by the Government and the Government retains a minority of the votership
    - Guarantees from U.S. Treasury
  - Privately owned
    - No stock, but can have statuary rights to vote
    - Tax privileges
    - Debt can be carried by the U.S. Government
- Many Government Corporations are exempted from Civil Service rules and the Freedom of Information Act.

Generic ISS Utilization Gov. Corp. Organization

NGO Organizational Model



Government Corporation Option
Down-Select Rationale

Original trace of Business Models against Functional Models

		A	B	C	D	E	F	G	H
		NASA CI	S/T/C Lead	+ Sust. Plds	+ Dev. Plds	+ MM/Ops	+ Eng.	B + MM/Ops	G + Eng.
1	For-Profit Contract	A1	B1	C1	D1	E1	F1	G1	H1
2	Non-Profit Institute	A2	B2	C2	D2	E2	F2	G2	H2
3	Cooperative Agreement	A3	B3	C3	D3	E3	F3	G3	H3
4	Space Act Agreement	A4	B4	C4	D4	E4	F4	G4	H4
5	State Corporation	A5	B5	C5	D5	E5	F5	G5	H5
6	**Government Corporation**	A6	B6	C6	D6	E6	F6	G6	H6
7	Cooperative Association	A7	B7	C7	D7	E7	F7	G7	H7
8	Government Sponsored Enterprise	A8	B8	C8	D8	E8	F8	G8	H8
9	NASA Division (baseline)	A9	B9	C9	D9	E9	F9	G9	H9
10	FFRDC	A10	B10	C10	D10	E10	F10	G10	H10

Not applicable

3- Not a Binding Agreement

4- NASA doesn't fund Space Act Agreements

5- State/Federal conflict considerations

7- Not a Binding Agreement

8- Privately Owned

1- Perceived conflict of interest regarding profit motive with S/T/C Leadership role

Down-Select Rationale, cont'd

Functional Model B6

- Managing Integrated Research Utilization (1c) is a key aspect of Managing Research Programs (1b). To separate them results in lack of clarity and accountability in implementation and results of integrated research utilization
- NASA hardware developers are reporting to NASA (1c) via the Program Control Board. It is not clear how NASA developers or NASA managers report to the NGO under this allocation of functions
- Would be difficult for an NGO to recommend ISS Pre-planned Product Improvements when NASA is performing all the activities that provide knowledge on what should/could be improved
- Following selection, NGO has no direct interface with the user

Down-Select Rationale, cont'd

Functional Model C6

- Same issues as in Model B6 although assuming Function 7 aids in having some interface to users and establishing a direct reporting link to the NGO
  - Managing Integrated Research Utilization (1c) is a key aspect of Managing Research Programs (1b). To separate them results in lack of clarity and accountability in implementation and results of integrated research utilization
  - NASA hardware developers are reporting to NASA (1c) via the Program Control Board. It is not clear how NASA developers or NASA managers report to the NGO under this allocation of functions
  - Would be difficult for an NGO to recommend ISS Pre-planned Product Improvements when NASA is performing all the activities that provide knowledge on what should/could be improved
  - Following selection, NGO has no direct interface with the user
- NGO now manages Functions 7 and 9 but dual reporting still occurs with reporting back to NASA via function 1c
- Function 1c is controlling boards, thus having the NGO report to NASA for Functions 7 and 9

Down-Select Rationale, cont'd

Functional Model D6

- Managing Integrated Research Utilization (1c) is a key aspect of Managing Research Programs (1b). To separate 1b and 1c results in lack of clarity and accountability in implementation and results of integrated research utilization
- NGO is responsible for hardware development but NASA (1c) is controlling the Program Control Board.
- Difficult for an NGO to recommend ISS Pre-planned Product Improvements when NASA is performing Functions 13b, 14, 15 and 16

Concerns:

- Science organization leading engineering
- Complexity of required organization and necessary skills

Down-Select Rationale, cont'd

Functional Model E6

- Minor problems remaining with an NGO ability to recommend ISS Pre-planned Product Improvements with NASA performing Functions 14 and 15

Positives:

- Clarity, interfaces and accountability issues improved

Concerns:

- Science organization leading engineering
- Complexity of required organization and necessary skills

Down-Select Rationale, cont'd

Functional Model F6

- Very minor problems remaining with an NGO ability to recommend ISS Pre-planned Product Improvements with NASA performing Function 15

Positives:

- Clarity, interfaces and accountability issues resolved

Concerns:

- Science organization leading engineering
- Complexity of required organization and necessary skills

Down-Select Rationale, cont'd

Functional Model G6

- Difficult for an NGO to recommend ISS Pre-planned Product Improvements when NASA is performing all the activities that provide knowledge on what should/could be improved but to a lesser degree as NGO now performs Functions 1c and 16
- NGO has limited direct interface with the user

Red Team II Comments

Government Corporation Option

- Outcome: Assumed to operate as “a business.”
  - Questions:
    1. Is this consistent with scientific research, as opposed to commercial research?
    2. Is there a marketing and business plan which supports this option?
    3. Transition appears quite complex with heavy dependence on IPAs. Is this a realistic approach?
- Presentation appears overly optimistic with respect to organizational behavior. Example: Lack of funding control raises questions of NASA strategic direction (function 0).